

Serial No. 10/516,084  
Atty. Doc. No. 2002P07513WOUS

REMARKS

Claims 15-35 are pending in this application, with claims 27-34 being withdrawn from consideration. The Abstract is objected to because of length and legal phraseology. Claims 15, 17, 18, 20 and 22 are objected to because of informalities. Claim 26 is rejected under 35 USC 112 as being indefinite. Claims 15-20, 23, 24 and 35 are rejected under 35 USC 102(b) as being anticipated by Ueda. Claims 21, 22 and 25 are rejected under 35 USC 103(a) as being unpatentable over Ueda in view of Art Recognized Suitability for an Intended Purpose.

The applicants hereby affirm the election of the invention of Group I.

A new Abstract is presented in compliance with MPEP 608.01(b).

The applicants appreciate the comprehensive examination of the pending claims. In response to the Examiner's analysis, the Applicants have elected to cancel all pending claims and to present a set of claims having a more focused scope that defines around the cited prior art.

In particular, new independent claim 36 is directed generally to the subject matter of cancelled independent claim 15, however, claim 36 includes the limitations of "the monitoring structure comprises an electrical conductor formed of a material that is more brittle than the ductile metal component so that a bending of the ductile metal component results in a crack in the electrical conductor causing a change in an electrical property of the monitoring structure detectable by the monitoring device as a degradation of the component by bending." The cited prior art does not teach or suggest any such limitation affecting the type of material used for a monitoring structure, or the particular advantage presented by such a limitation in detecting a detrimental bending condition. Accordingly, claims 36 and its dependent claim 37 are believed to be in condition for allowance.

New independent claim 38 is directed generally to the subject matter of cancelled independent claim 35, however, claim 38 is particularly directed to a ceramic heat shield embodiment and it includes the limitations that the ceramic heat shield is "deemed acceptable only in the absence of any crack propagating from an edge of the heat shield toward a center of the heat shield exceeding a defined critical length" and further includes "a monitoring structure applied to the heat shield and comprising an electrical conductor attached to the heat shield at a distance equal to the critical length from the edge of the heat shield ... wherein a crack propagating from the edge of the heat shield toward the center of the heat shield exceeding the critical length will cause a crack in the electrical conductor detectable by the monitoring device

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for identifying the heat shield as defective." Nothing in the cited prior art teaches or suggests such a ceramic heat shield assembly, nor does the prior art suggest any such relationship between a critical crack length and a placement of a monitoring structure. Such limitations cannot properly be said to be inherent or obvious in view of Ueda, since Figure 17 of Ueda appears to teach away from such limitations by illustrating a conductor being uniformly distributed across an entire surface of a component. Thus, independent claim 38 and its dependent claims 39-42 are believed to be in condition for allowance.

Dependent claim 39 adds the additional limitations of "wherein the electrical conductor is formed in the shape of a ring around the center of the heat shield at the critical length distance from the edge." Figure 17 of Ueda teaches away from such limitations.

Dependent claims 41 and 42 add the additional limitations of "wherein the monitoring structure is applied to a surface of the heat shield that is not accessible in an installed state in a gas turbine engine." Figure 17 of Ueda appears to teach away from such limitations by illustrating the monitoring structure being installed on an easily accessible surface of the rotating blade.

Consideration and allowance of new claims 36-42 are respectfully requested.

Conclusion

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, or credit any overpayments, to Deposit Account No. 19-2179, including the fee for the extension of time necessary for the entry of this response.

Respectfully submitted,

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By: J.P. Musone  
John P. Musone  
Registration No. 44,961  
(407) 736-6449

Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, New Jersey 08830